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BORING ATTACHMENT FOR ELECTRIC HAND DRILLS

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Fig. 1

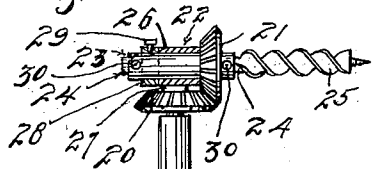


Fig. 2

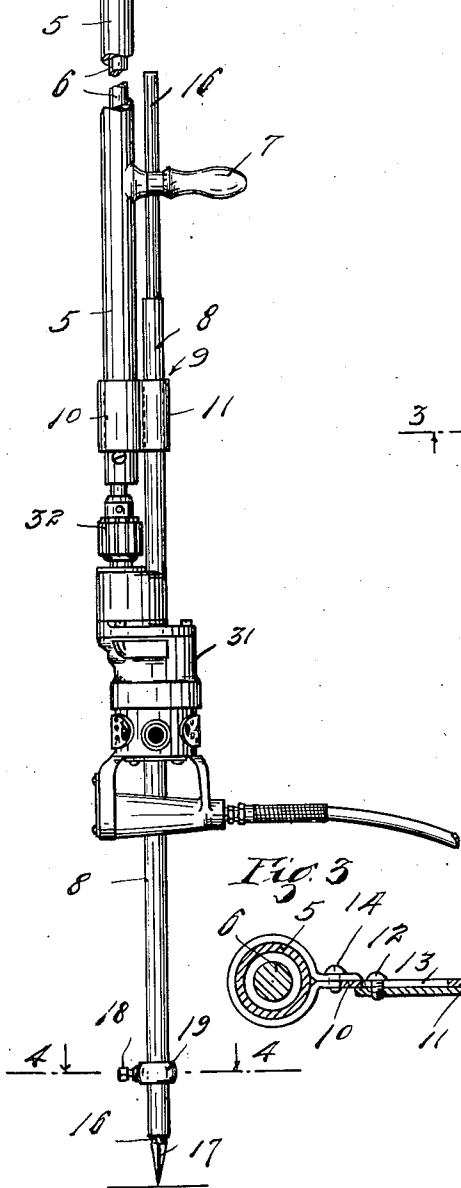
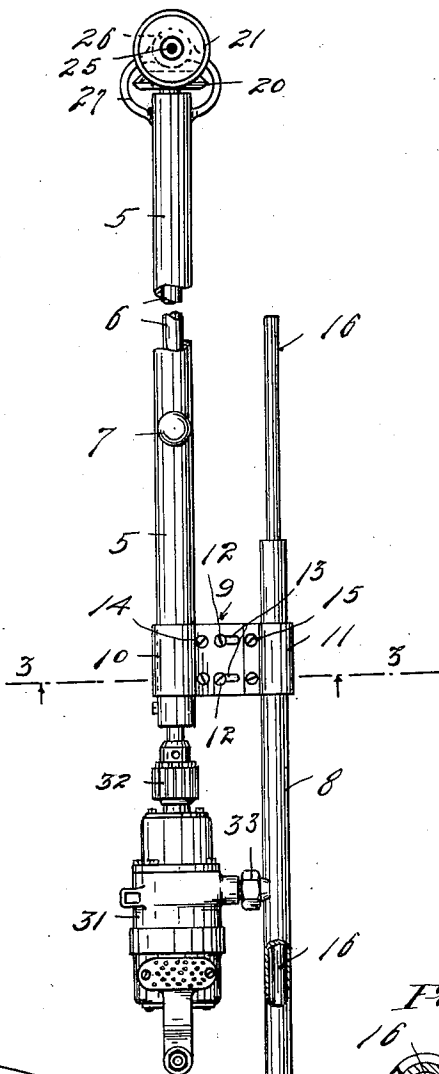
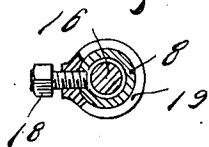


Fig. 4



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BORING ATTACHMENT FOR ELECTRIC HAND DRILLS

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1 Claim. (Cl. 144-93)

1

2

My invention relates to boring devices, and more particularly, to a boring attachment for electric hand drills which affords a power unit for driving a bit. This attachment is especially designed for use in boring holes in joists, partitions and the like and through which holes electric cables are to be threaded during the installation of electric wiring.

It is an object of this invention to provide a boring attachment for electric hand drills that is comparatively inexpensive to manufacture and wherein the electric hand drill may be used for other purposes.

Another object of this invention is to provide such an attachment for boring holes in restricted places, especially in old structures.

A further object of this invention is to provide such an attachment that can be quickly and easily adjusted for holding a bit at a predetermined elevation.

Other objects of this invention will be apparent from the following description, reference being had to the drawing.

To the above end, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claim.

In the accompanying drawing, which illustrates the invention, like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a fragmentary edge elevational view of the boring attachment having an electric hand drill mounted thereon;

Fig. 2 is a fragmentary side elevational view of the invention as shown in Fig. 1;

Fig. 3 is a detail view principally in section taken on the line 3-3 of Fig. 2, on an enlarged scale; and

Fig. 4 is a detail view principally in section taken on the line 4-4 of Fig. 1, on an enlarged scale.

The numeral 5 indicates a long tubular housing for a drive shaft 6 and having a radially projecting handle 7. This housing 5 is attached to a tubular standard 8 by an adjustable clamp 9. This clamp 9, as shown, comprises two overlapped flat plates 10 and 11 adjustably connected by a pair of screws 12 that extend through elongated slots 13 in the plate 10 and have threaded engagement with the plate 11. The outer end portion of the plate 10 is folded around the housing 5 and frictionally clamped thereon by screws 14 which extend through holes in the respective end portion of the plate 10 and have

threaded engagement with the body portion of said plate. The outer end portion of the plate 11 is folded around the standard 8 and frictionally clamped thereon by screws 15 that extend through holes in the respective end portion of the plate 11 and have threaded engagement with the body portion of said plate. Obviously, the clamp 9 permits relative endwise adjustment of the housing 5 and the standard 8 to vary their combined operative length. This clamp 9 holds the housing 5 and the standard 8 parallel and laterally spaced and also permits relative adjustment of said housing and standard toward or from each other.

Slidably mounted in the standard 8 is a long round rod 16, the outer end portion of which is pointed at 17 for engagement with a floor or other base of resistance for supporting the tool. The rod 16 is adjustably secured to the standard 8 for endwise adjustment by a set-screw 18 having threaded engagement with a loose collar 19 on said standard, extends through a hole in the standard 8 and impinges the rod 16, see Fig. 4.

The drive shaft 6 extends outwardly of the outer end of the housing 5 and mounted thereon is a bevel gear 20, that meshes with a bevel gear 21 on a bit holder 22. This bit holder 22 is a cylindrical member having an axial bore 23 for the shank 24 of a bit 25. The bit holder 22 is journaled in a bearing 26 attached to the outer end of the housing 5 by a bracket 27. Said bit holder 22 is held in the bearing 26 against axial movement by the gear 21 and a collar 28 attached to said bit holder by a set screw 29. The bit shank 24 is removably held in the bit holder 22 by two set screws 30. This mounting and driving of the bit 25 makes a very compact structure and positions the bit 25 close to the housing 5 that facilitates the entering of said bit into a very restricted area, which is highly important when boring holes in old structures.

This bit 25 is turned by an electric hand drill, indicated as an entirety by the numeral 31, with the exception of its chuck 32. This drill 31 is detachably secured to the standard 8 by a union 33. The inner end of the drive shaft 6 is held in the chuck 32 and driven from the drill 31.

Obviously, the drill 31 may be very quickly and easily removed from the boring attachment simply by manipulating the union 33 and releasing the clutch 32.

What I claim is:

In a device of the class described, a long upright rod having on its lower end a floor-engaging member, a long tubular member telescoped

3

onto the rod for endwise adjustment, means for securing the tubular member to the rod where endwise adjusted thereon, a hand drill having an upstanding chuck with its axis parallel to the axis of the rod, a fitting attaching the hand drill to the tubular member to turn about an axis perpendicular to the axis of the tubular member, a long tubular housing parallel to the tubular member, a clamp securing the tubular housing to the tubular member for relative lateral and swinging adjustment about the axis of the tubular member to align its axis with the axis of the chuck, a drive shaft in the tubular housing with its lower end portion held by the chuck, a bearing on the upper end portion of the housing, a bit holder journaled in the bearing, and meshing gears on the drive shaft and the bit holder.

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4

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